

ABSTRACT OF THE DISCLOSURE

A welding process for welding a Cu material to a Ti material includes interposing a tertiary component between the Ti material and the Cu material. The tertiary component is of a type of metal that, with Cu, forms a compound which is liquified at a temperature below the eutectic temperature of Ti and Cu. The above materials are heated and welded at temperature of (700 through 887° C). The temperature selected is below the eutectic temperature of the Ti and Cu. The finished material forms a sputtering backing plate for a sputtering. A target member, bonded to the Cu material side of the backing plate, completes the sputtering target. In one embodiment, the proportion of the tertiary metal is achieved by controlling a thickness of the tertiary metal deposited on the Cu material. In another embodiment, the proportion of the tertiary metal is achieved by controlling the thickness of a layer of powder of the tertiary material deposited between the Cu and Ti materials.